

REMARKS

Claims 1 to 20 were pending in the Application at the time of examination. The Examiner rejected Claims 1, 3, 4, 5, 6, 7, 10, 12, 13, and 14 under 35 U.S.C. 102(a) as anticipated by the Arent reference (US 6,018,724). The Examiner rejected Claims 2, 8, 9, 11, and 15 to 20 under 35 U.S.C. 103(a) as obvious over the Arent reference (US 6,018,724) and the Examiner's official notice.

Applicants have cancelled Claims 3, 4, 8, and 10 to 20, without prejudice. Applicants have amended Claims 1, 2, 5, 6, 7 and 9. Consequently Claims 1, 2, 5, 6, 7, and 9 remain in the Application.

REJECTION OF CLAIMS 1, 3, 4, 5, 6, 7, 10, 12, 13, AND 14

The Examiner rejected Claims 1, 3, 4, 5, 6, 7, 10, 12, 13, and 14 under 35 U.S.C. 102(a) as anticipated by the Arent reference (US 6,018,724).

Applicants have cancelled Claims 3, 4, 8, and 10 to 20, without prejudice. Consequently, Applicants respectfully submit that the rejection of Claims 10, 12, 13 and 14 is now moot.

Applicants have amended Claims 1, 2, 5, 6, 7, and 9. Applicants' Claim 1, as amended, reads as follows, with emphasis added:

A method comprising:

providing a federation of computers and computing devices, said federation appearing as a single system to a user of said federation;

providing a first service, said first service participating in said federation;

initiating a request for a said first service; said request being initiated by said

user via a second service, **said second service participating in said federation;**
requesting authentication of said second service, said authentication being requested by said first service;
presenting authentication, said authentication being presented by said second service;
verifying said authentication, said authentication being verified by said first service; and
granting access to said first service, thereby enabling said second service to said first service.

As shown above, Applicants Claim 1, as amended, specifically recites the method is applied to an environment of "**a federation of computers and computing devices, said federation appearing as a single system to a user of said federation**". This amendment to Claim 1 is supported in Applicants Specification at, for example, page 5, lines 1 to 14 where the particular embodiment where the "**a federation of computers and computing devices, said federation appearing as a single system to a user of said federation**" is the JINI environment is discussed as follows:

The Jini technology infrastructure provides mechanisms for devices, services, and users to join and detach from a network. Joining into and leaving a Jini system is an easy and natural, often automatic, occurrence. Jini systems are far more dynamic than is possible in some networked groups where configuring a network is a centralized function done by hand.

The Jini system federates computers and computing devices into what appears to the user as a single system. It relies on the existence of a

network of reasonable speed connecting those computers and devices. Each Jini technology-enabled device has some memory and processing power. Devices without processing power or memory may be connected to a Jini system, but those devices are controlled by another piece of hardware and/or software, called a proxy, that presents the device to the Jini system and which itself contains both processing power and memory.

This aspect of Applicants invention is discussed through out Applicants Specification. For instance, at page 14 lines 1 to 22 of Applicants' Specification, the particular embodiment where the **"a federation of computers and computing devices, said federation appearing as a single system to a user of said federation"** is the JINI environment is discussed as follows, with emphasis added:

The present invention describes **architectures that enable different types of security devices to operate interchangeably in very large networks for authentication and metered access to services**. An embodiment of the invention is an enhancement to Jini technology and presents a universal method for authentication, authorization, and payment for services participating in a Jini or equivalent network environment.

Access to the network services is lease based. The leasing model supports a smart card type payment for services. Fees for services are published. For example, a printer tells how much for color copies, for printing graphics, etc. Payments are automatically forwarded from the smart card type device to the service whenever a service is leased. To accomplish automatic payment, a **universal payment and billing system that uses the Jini Application Programming Interface (API)** is employed. The **billing system automatically establishes what the payment should be for certain services**.

Public certificates are issued to entities that want to engage in the Jini environment and provide services. These public certificates are used for authentication. A user can therefore customize access to its services to make them available to only those other services as the user desires.

Authentication devices include cellular phones, smart cards, Personal Data Assistants, or similar devices that have processing and memory capabilities.

Page 16, line 1 to page 18, line 10 further discusses the federation environment recited in Claim 1, as amended:

The invention is a method and apparatus for authentication and payment for devices participating in Jini communities. In the following description, numerous specific details are set forth to provide a more thorough description of embodiments of the invention. It is apparent, however, to one skilled in the art, that the invention may be practiced without these specific details. In other instances, well known features have not been described in detail so as not to obscure the invention.

The present invention describes architectures that enable different types of security devices to operate interchangeably in very large networks for authentication and metered access to services. Authentication, as used in this specification, is inclusive of authentication, authorization, and payment.

Clients in a network environment (e.g. Jini) subscribe to services that have associated costs. Currently there is no universal method of billing and authentication for services by devices participating in a Jini or equivalent environment. The present invention is an enhancement to Jini technology.

Embodiments of the invention may be implemented in devices participating in any network environment including but not limited to those devices that subscribe to the Jini architecture. The description, examples, and implementations described in this patent document may refer to or utilize the Java programming language for devices participating in a Jini architectural network, but the invention is neither limited to the use of the Java programming language nor Jini architecture but may be implemented in any language or network environment.

A Jini environment may comprise of businesses, customers, vendors, devices, services, etc. Each entity in the environment may join or exit the environment at will. Entities that wish to join are included in the network as soon as they are within the vicinity of the network. For example, a customer that walks through the doors of a department store is spontaneously included into a network comprising the store and its services.

Each entity in the environment may provide some kind of service. For example, a printing service may be provided by a business; and a customer may provide personal service that includes information like the customer's date of birth, dining preferences, etc. Some of these services are enabling services which interact with each other to provide access to resources (other services provide the resource). Jini services have associated costs. An embodiment of the present invention provides means for collecting payment for Jini services.

Access to many of the services is lease based. The leasing model supports a smart card type payment for services. Fees for services are published. For example, a printer tells how much for color copies, for printing graphics, etc. Payments are automatically forwarded from the smart card type device (a smart card is a secure portable device with memory that can store user information such as a user's identification and a secret code used for authentication) to the service whenever a service is leased. To accomplish automatic payment, a universal payment and billing system that is understood by devices using the Jini Application Programming Interface (API) is used. The billing system

automatically establishes what the payment should be for certain services.

Public certificates are issued to entities that want to engage in the Jini environment and provide services. These public certificates are used for authentication. A user can therefore customize access to its services to make them available to only those other services as the user desires. A personal services matrix can be as shown in Table 1 below. As shown, the user may customize to restrict access to only those entities that the user wants to grant access to.

Applicants respectfully submit that the Arent reference (US 6,018,724) fails to disclose, teach, or suggest a method applied to "**a federation of computers and computing devices, said federation appearing as a single system to a user of said federation**" as recited in Applicants' Claim 1, as amended. Therefore, Applicants respectfully submit that Claim 1, as amended, is patentable over the Arent reference.

In addition, Claims 2, 5, 6, 7, and 9, as amended, depend, directly or indirectly on Claim 1, as amended, and therefore include all of the features and limitations of Claim 1, as amended. Consequently, Applicants respectfully submit that Claims 2, 5, 6, 7, and 9 are also patentable over the Arent reference.

REJECTION OF CLAIMS 2, 8, 9, 11, and 15 to 20

The Examiner rejected Claims 2, 8, 9, 11, and 15 to 20 under 35 U.S.C.103(a) as obvious over the Arent reference (US 6,018,724) and the Examiner's official notice.

Applicants have cancelled Claims 3, 4, 8, and 10 to 20, without prejudice. Consequently, Applicants respectfully

submit that the rejection of Claims 8, 11 and 15 to 20 is now moot.

Applicants first traverse the Examiner "Official Notice" that payment as recited in Claim 2 is well known.

Applicants' Claim 2, as amended, recites, with emphasis added:

The method of claim 1, further comprising collecting payment for said first service **via said federation.**

Applicants respectfully submit that when Claim 2, as amended, is read with parent Claim 1, as amended, the method for collecting payment recited is not simply collecting payment as the Examiner suggests but is directed to a specific type of payment collection unique to Applicants' invention.

In addition, Applicant respectfully submits that the addition of the Examiner's official notice does nothing to cure the deficiencies discussed above with respect to the Arent reference. Therefore Applicants respectfully submit that Applicants' Claim 1, as amended, is patentable over the Arent reference, the Examiner's official notice, or any proper combination of the Arent reference and the Examiner's official notice for at least the reasons discussed above.

Claims 2 and 9, as amended, depend on Claim 1, as amended. Consequently, Claims 2 and 9, as amended, include all of the features and limitations of Claim 1, as amended, and are also patentable over the Arent reference for at least the reasons discussed above. Therefore, Applicants respectfully request allowance of Claims 2 and 9, as amended.

CONCLUSION

For the foregoing reasons, Applicants respectfully request allowance of all pending claims. If the Examiner has any questions relating to the above, the Examiner is respectfully requested to telephone the undersigned Attorney for Applicants.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on July 13, 2004.


Attorney for Applicants

July 13, 2004
Date of Signature

Respectfully submitted,


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